

## **REMARKS**

A new copy of the oath/declaration with application serial number, filing date, inventor name, citizenship, residence and postal address as per the Examiner's request will be forwarded shortly.

Applicant submits three replacement figures, 1, 8, and 12 responsive to Examiner's rejections.

### **Rejections under 35 U.S.C. § 112**

Applicant disagrees with Examiner's assertion that the submitted drawings do not show a specimen stage installed at the groove-carved surface of the main frame and directs the Examiner's attention to Figure 7 number 11.

All other § 112 rejections have been corrected through the amended Claims and the discussion outlined below.

### **Rejections under 35 U.S.C. § 103**

## **BACKGROUND**

Ellipsometers are devices used to study samples of reflecting surfaces by measuring optical constants of a material or thin-layer parameters. A problem

encountered in the prior art is the error introduced through misalignment of the transmitter, receiver and specimen holder.

### **Rejections under 35 U.S.C. § 103**

Claims 11-13 are rejected as being obvious over Michaelis et al. in view of Anthon et al. in further view of what is commonly known in the art.

Examiner asserts that all of the recited steps in Claim 11 are disclosed in Michaelis and Anthon, “except for repeatedly performing the measuring and compensating steps and asserts this takes only routine experimentation, obvious engineering expedience and ordinary skill in the art.” Applicant disagrees.

Amended Claim 11 recites, *inter alia*:

“compensating the error by **moving a light spot reflected from a specimen onto a center of the detector’s entrance aperture;**  
calculating the tilt and translating angle errors by repeatedly performing said measuring and compensating steps for the polarizing unit located at a **subsequent predetermined position;** and...”

Applicant draws the Examiner’s attention to the fact that neither Michaelis nor Anthon disclose “moving the light spot reflected from a specimen onto the center of the

detector's entrance aperture." Although Michaelis discloses a movable stage in the x-y-z position (col. 6 ll. 67 to col. 7 ll. 1) and the Examiner cites col. 7 ll. 22-23 of Michaelis, which recites "...the angle of incidence and the polarizer angle are adjustable," neither of these discloses, nor does any other disclosure in Michaelis disclose moving the light reflected from the specimen onto the center of the detector's entrance aperture. Michaelis relies on the reflected light not to enter the center of the detector's entrance aperture after the specimen stage has rotated in order to indicate surface details. Michaelis does not move the reflected light onto the center of the entrance aperture. If it did so, it would obviate the function Michaelis is attempting to achieve.

Anthon discloses a moving light source and detector, but does not disclose moving the light spot once the light source and detector have been moved on it's frame to the next stationary spot. Thus neither cited art discloses the step of "moving the light spot reflected from a specimen onto the center of the detector's entrance aperture."

Additionally, Applicant has amended Claim 11 to clarify that the polarizing unit is moveable, which allows measurements to be taken when the light source is positioned in at least two different geometric positions. Taking readings while the ellipsometer is in multiple different *known* geometric configurations allows a more accurate determination of the tilt and translating angle error while compensating for the thickness of the specimen, and is not disclosed or taught in Michaelis or Anthon.

In summary, Michaelis discloses a system and method for measuring critical dimensions of a specimen, but does not disclose a method that moves “the light spot reflected from a specimen onto the center of the detector’s entrance aperture.” Nor does Michaelis calculate “the tilt and translating angle errors by repeatedly performing said measuring and compensating steps” as claimed. Lastly, Anthon discloses a moveable light source and detector, but they do not perform the recited method.

Therefore, Applicant requests the Examiner withdraw the rejection to Claim 11 and allow it as amended.

Claims 12-14 depend from Claim 11 and are therefore allowable with their respective base claims without recourse to the further patentable limitations recited therein.

Applicant respectfully requests allowance of Claims 11-14.

Respectfully submitted,



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